

Amend the paragraph beginning at page 5, line 16 as follows:

According to Ohm's Law for magnetic circuits and including assumptions (a), (b) and (c) as stated above, the magnetic flux produced by the excitation system (with electromagnet or permanent magnet) is  $\Phi = \frac{NI}{\frac{\Delta l_r}{\mu_0 \mu_r S_r} + \frac{2g}{\mu_0 S_g}}$  and the magnetic flux

density in the rope (equal to the magnetic flux density in a single strand) is

$$B = \frac{\Phi}{S_r} = \frac{\mu_0 NI}{\frac{\Delta l_r}{\mu_r} + \frac{2g S_r}{S_g}}$$
 where  $N$  is the number of turns of the electromagnet winding

used for the excitation and  $I$  is the d.c. current in the electromagnet winding. The equivalent magnetic motive force (MMF)  $NI$  can also be produced by a permanent ~~magnet~~ magnet. For a permanent magnet  $NI$  should be replaced by  $Hh_M$  where  $H$  is the equivalent magnetic field intensity and  $h_M$  is the length of the permanent magnet.

Amend paragraph beginning at page 6, line 14 as follows:

The magnetic flux exciter-sensor system according to the present invention requires the test sample, an elevator rope having internal steel cords, for example, to be passed over the poles of a magnet so that at any instant the portions of the cords that are over and in between the poles are magnetized, becoming part of the magnetic circuit, and a magnetic flux density is established in the cords parallel to their axes. In an ideal, non-deteriorated rope the majority of magnetic flux is parallel to the rope. A deterioration defect, as described above, in a steel cord or wire thereof causes local fringing in the magnetic flux density, so that it forms a "bump" or discontinuity in the parallel direction of the flux. At the location of the defect ~~there~~ there is some magnetic flux density directed in a direction normal to the axis of the cord. This normal flux density is what is detected as indicative of a defect in the rope by the system of the present invention.

